



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,140	11/25/2003	Timothy P. Bender	D/A1440	6331

25453 7590 06/20/2005

PATENT DOCUMENTATION CENTER
XEROX CORPORATION
100 CLINTON AVE., SOUTH, XEROX SQUARE, 20TH FLOOR
ROCHESTER, NY 14644

EXAMINER

ASHTON, ROSEMARY E

ART UNIT PAPER NUMBER

1752

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,140

Applicant(s)

BENDER, TIMOTHY P.

Examiner

Rosemary E. Ashton

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) 1-40, 47-50, 55, 60-62 and 69-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41, 42, 44, 51-54, 56-59 and 63-68 is/are rejected.
- 7) ☒ Claim(s) 43, 45 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/3/05 2/4/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1752

DETAILED ACTION***Election/Restrictions***

1. Applicant's election with traverse of Group III, claims 41-68, in the reply filed on 3 February 2005, is acknowledged. The traversal is on the ground(s) that Groups I-V, claims 1-80, should be examined together as they do not represent an undue burden on the examiner. This is not found persuasive because Groups I and II claim copolymers, Group III claims a process of making a polymer, Groups IV and V each claim imaging members. The copolymer of Groups I or II are not the same as the polymer formed by the method of Group III. For example, the copolymer of Group I, claim 1, has a D group, no B group and a terminal Ar whereas the method of Group III forms a polymer having no D group, a B group and a terminal Ar. While some of the polymers formed in the method of Group III might be overlapping with Group I there are others which are not the same. To say that Groups I-V, claims 1-80, should be examined together as they do not represent an undue burden on the examiner is mistaken because the claims have different polymers and too many functional group to be thoroughly examined in one office action. For example claim 1 has D as (a) a branch point, (b) a terminal group, (c) or one of two formulas whereas claim 41 has polymer components reacted together, none of which are group D as defined in claim 1.

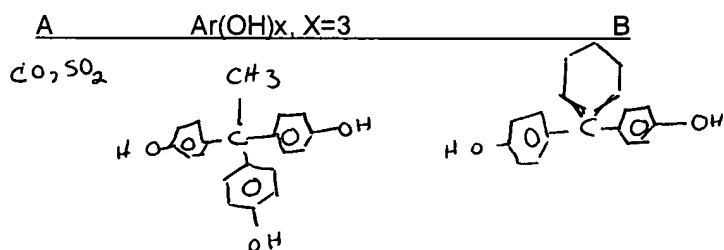
Applicant's election with traverse of a species in claim 41, in the reply filed on 3 February 2005, is acknowledged and states the species can be examined together. Clearly this is not the case. Claim 41 reads on reacting the following compounds (a) a phenol compound $\text{Ar}(\text{OH})_x$ where $x \geq 3$; (b) a chloro or fluoro substituted diphenyl compound having an internal A group wherein A is selected from 1-15 different moieties; (c) a dihydroxy compound having an internal B group wherein B is selected from 1 to at least 47 different moieties and an optional phenol compound having up to 4 different substituents. The examiner maintains an election of species is necessary in view of the numerous compound claimed.

The requirement is still deemed proper and is therefore made FINAL.

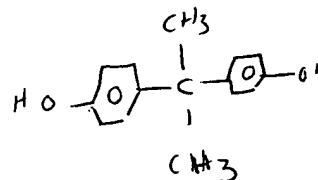
Art Unit: 1752

This application contains claims 1-40,55,60-62,69-80 drawn to an invention nonelected with traverse in the Paper Filed 3 February 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

2. With respect to the elected species Applicant elected $A=CO, SO_2, Y$ and Y' were not elected and both F and Cl were examined, $B=4,4'$ -cyclohexylidenebis(phenol), $(HO-ph)_2$ cyclohexyl and $Ar(OH)_x$ =alkylaryl moiety having no heteroatoms and no substitution on aryl ring, For examination the examiner chose 4,4',4''-ethylidynetris(phenol), $(HO-ph)_3-C-Me$ for the phenol compound $Ar(OH)_x$.

First search of elected species:**Second search of species:**

A and Ar same as above



The examiner did not find prior art for the elected species cited above for the first search. However, art was found for the second search where B was changed to methylethylidenebisphenol, $(HO-ph)_2C(Me)_2$ also shown above.

Art Unit: 1752

Based on the elected species only those claims which read on the elected species are examined.

The examined claims are claims 41-46, 51-53, 54 (with respect only to the first compound as it is an alkylaryl compound), 56, 57 (only the first and last compounds examined), 58, 59, 63-68.

Compound (v) is optional and thus it is not required and has not been examined in claim 41.

Claims 60-62 are not examined because they read on the optional compound which is not in the examined method.

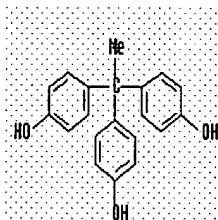
Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis of the rejections under this section made in this Office action:

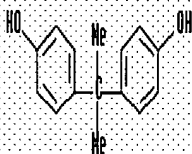
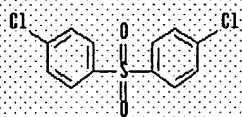
A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 41, 42, 44, 51, 52, 53, 54 (for compound 1 only), 56, 57, 58, 59, 63, 64, 66 are rejected under 35 U.S.C. 102(a) as being anticipated by Weber et al Chemical Abstract 138:322145. As shown in the abstract Weber teaches forming a polymer by reacting the following reagent⁵ in N-methylpyrrolidone¹ with potassium carbonate at 190 deg.C. The first compound below meets the limitations of Ar(OH)_x, X=3, the second compound⁵ meets the limitations of A and the third compound meets the limitations of B in the second search of B.



Art Unit: 1752



Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 65,67,68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al applied above, in view of Bender et al patent no. 6,716,956.

As shown above the chemical abstract of Weber teaches the limitations of claim 41, however, it does not teach the base is cesium carbonate or that azeotropic distillation with toluene is used to remove water from the reaction mixture.

In col. 48, lines 28-31, Bender teaches cesium carbonate is an alternative to potassium carbonate and in col. 49, lines 59-61, Bender teaches forming a polyarylene ether wherein the reaction water may be removed by azeotropic distillation with toluene.

Art Unit: 1752

It would have been obvious to one of ordinary skill in the art to use cesium carbonate, rather than potassium carbonate, in the reaction mixture taught in Weber with a reasonable expectation of obtaining a polymer because Bender teaches they are preferred base^s and alternative^s in the reaction.

It would have been obvious to one of ordinary skill in the art to use azeotropic distillation with toluene ~~is used~~ to remove water from the reaction mixture with a reasonable expectation of obtaining a polymer because Bender teaches the process provide^s for removal of phenoxide compounds.

Allowable Subject Matter

7. Claims 43,45,46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claims 43,45 and 46 are allowable because the prior art does not anticipate the claimed polymer having the specific A and B groups claimed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosemary E. Ashton whose telephone number is 571-272-1326. The examiner can normally be reached on Mon-Fri, 11:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Art Unit: 1752

Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rosemary E. Ashton
Primary Examiner
Art Unit 1752

May 15, 2005

ROSEMARY ASHTON
PRIMARY EXAMINER